IN THE CLAIMS:

1. (currently amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a continuously variable transmission, comprising:

(a) an electric motor coupled to the output of said engine; and

(b) a ~~motor~~ system controller configured to operate said motor simultaneously with said engine and apply ~~positive or negative~~ motor torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(c) wherein, at any given vehicle speed, said motor controller and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(c) said system controller further configured to control rate of change of ratio of said continuously variable transmission;

(d) wherein said system controller varies acceleration and deceleration of said vehicle by varying motor torque and rate of change of ratio of said continuously variable transmission.

2. (original) An apparatus as recited in claim 1, wherein said motor comprises a motor/generator.

3. (canceled) An apparatus as recited in claim 1, wherein said motor controller varies positive and negative output torque of said electric motor to vary engine power output.

4. (currently amended) An apparatus as recited in claim ~~1 wherein, for any given speed, said motor controller sets engine power output in accordance with predetermined operating characteristics~~ 2, wherein said system controller is configured to apply positive or negative motor/generator torque to said engine output.

5. (currently amended) An apparatus as recited in claim 1, wherein said ~~motor is coupled to a transmission~~ system controller is configured to apply positive motor torque to said engine output.

6. (canceled) An apparatus as recited in claim 5, wherein the rate of change of ratio of said transmission is controllable and further comprising means for controlling the rate of change of ratio.

7. (canceled) An apparatus as recited in claim 6, wherein said transmission is a continuously variable transmission.

8. (canceled) An apparatus as recited in claim 6, wherein said transmission is an automatic transmission.

9. (currently amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a continuously variable transmission wherein the rate of change of ratio of said transmission is controllable, comprising:

(a) an electric motor positioned between said engine and said transmission; and

(b) a system controller configured to vary the rate of change of the ratio of said transmission and to operate said motor simultaneously with said engine and apply ~~positive or negative~~ motor torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(c) wherein, at any given vehicle speed, said motor controller and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(c) wherein said system controller varies acceleration and deceleration of said vehicle by varying motor torque and rate of change of ratio of said continuously variable transmission.

10. (currently amended) An apparatus as recited in claim 9, wherein said ~~transmission is a continuously variable transmission~~ system controller is configured to apply positive motor torque to said engine output.

11. (currently amended) An apparatus as recited in claim 9, wherein said ~~transmission is an automatic transmission~~ motor comprises a motor/generator, and

wherein said system controller is configured to apply positive or negative motor/generator torque to said engine output.

12. (currently amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a continuously variable transmission, comprising:

(a) a generator coupled to the output of said engine; and

(b) a ~~generator~~ system controller configured to operate said generator simultaneously with said engine and apply ~~positive or negative~~ generator torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(c) wherein, at any given vehicle speed, said generator controller and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(c) said system controller further configured to control rate of change of ratio of said continuously variable transmission;

(d) wherein said system controller varies acceleration and deceleration of said vehicle by varying generator torque and rate of change of ratio of said continuously variable transmission.

13. (original) An apparatus as recited in claim 12, wherein said generator comprises a generator/motor.

14. (currently amended) An apparatus as recited in claim ~~12, wherein said generator controller varies positive and negative output torque of said generator to vary engine power output~~ 13, wherein said system controller is configured to apply positive or negative generator/motor torque to said engine output.

15. (currently amended) An apparatus as recited in claim 12 wherein~~, for any given speed, said generator controller sets engine power output in accordance with predetermined operating characteristics~~ said system controller is configured to apply negative generator torque to said engine output.

16. (currently amended) An apparatus as recited in claim 12, further comprising:

(a) an electric motor;~~ and~~

(b) ~~a motor controller which varies the~~ said system controller configured to vary torque output of said motor;

(c) wherein said generator, said generator controller, said motor and said motor controller function as an electric continuously variable transmission.

17. (original) An apparatus as recited in claim 16, wherein said motor comprises a motor/generator.

18. (canceled) An apparatus as recited in claim 16, wherein the rate of change of ratio in said electric continuously variable transmission is controllable and further comprising means for controlling the rate of change of ratio.

19. (currently amended) A control apparatus for an internal combustion engine driving a continuously variable transmission and a driveshaft coupled to said continuously variable transmission wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

(a) a generator/motor mechanically coupled to and driven by said engine;

(b) a generator/motor controller electrically connected to said generator/motor;

(c) a motor/generator mechanically coupled to said drive shaft;

(d) a motor/generator controller electrically connected to said motor/generator;

(e) a battery electrically connected to said generator/motor controller and said motor/generator controller;

(f) said generator/motor, said generator/motor controller, said motor/generator, said motor/generator controller, and said battery comprising said continuously variable transmission; and

(g) a system controller configured to vary the rate of change of the ratio of said continuously variable transmission and to operate said generator/motor simultaneously with said engine and apply ~~positive or negative~~ generator/motor torque

to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(h) wherein, at any given vehicle speed, said motor controller and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(h) wherein said system controller varies acceleration and deceleration of said vehicle by varying generator/motor torque and rate of change of ratio of said continuously variable transmission.

20. (currently amended) A control apparatus for a vehicle having an internal combustion engine driving a continuously variable transmission, wherein said continuously variable transmission has an output driving a first wheel at a first end of said vehicle wheel, and wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

(a) an electric motor driving a second wheel at a second end of said vehicle;

~~(b) a motor controller electrically connected to said motor;~~

(c) said motor coupled to said transmission through a road surface; and

(d) control means for varying the rate of change of the ratio of said continuously variable transmission and for operating said motor simultaneously with said engine to apply ~~positive or negative generator/motor~~ motor torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(e) wherein, at any given vehicle speed, said control means and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(e) wherein said control means varies acceleration and deceleration of said vehicle by varying motor torque and rate of change of ratio of said continuously variable transmission.

21. (currently amended) A control apparatus for a vehicle having an internal combustion engine, an electric ~~motor~~ motor/generator coupled to said engine and driving a continuously variable transmission, and a battery system powering the electric motor, comprising:

~~a motor controller electrically connected to said electric motor;~~

~~wherein said motor~~ a system controller ~~is~~ configured to operate said ~~motor~~ motor/generator simultaneously with said engine and apply positive or negative ~~motor~~ motor/generator torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

wherein said predetermined operating line comprises an ideal operating line as determined by empirical testing of the engine, electric ~~motor~~ motor/generator, and battery system;

~~wherein, at any given vehicle speed, said motor controller and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

said system controller further configured to control rate of change of ratio of said continuously variable transmission;

wherein said system controller varies acceleration and deceleration of said vehicle by varying motor/generator torque and rate of change of ratio of said continuously variable transmission.

22. (currently amended) A control apparatus for a vehicle having an internal combustion engine and an electric ~~motor~~ motor/generator, wherein said internal combustion engine and said electric ~~motor~~ motor/generator are coupled to a continuously variable transmission, and wherein the rate of change of ratio of said continuously variable transmission is controllable, comprising:

(a) an engine controller mechanically connected to said internal combustion engine;

(b) a ~~motor~~ motor/generator controller electrically connected to said electric ~~motor~~ motor/generator; and

(c) control means ~~associated with~~ for controlling said engine controller and said ~~motor~~ motor/generator controller, for varying rate of change of the ratio of said transmission, and for operating said ~~motor~~ motor/generator simultaneously with said engine to apply positive or negative ~~motor~~ motor/generator torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line;

~~(d) wherein, at any given vehicle speed, said control means and said continuously variable transmission can vary engine speed and power, and thus acceleration or deceleration of said vehicle, without changing vehicle speed.~~

(d) wherein said system controller varies acceleration and deceleration of said vehicle by varying motor/generator torque and rate of change of ratio of said continuously variable transmission.

23. (currently amended) An apparatus for controlling the power at the output of an internal combustion engine coupled to a continuously variable transmission, comprising:

(a) an electric ~~motor~~ motor/generator coupled to the output of said engine; and

(b) control means for operating said ~~motor~~ motor/generator simultaneously with said engine and applying positive or negative ~~motor~~ motor/generator torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line and for controlling rate of change of ratio of said continuously variable transmission ~~wherein, at any given vehicle speed, engine speed and power, and thus acceleration or deceleration of said vehicle, can be varied without changing vehicle speed~~;

(c) wherein said control means varies acceleration and deceleration of said vehicle by varying motor/generator torque and rate of change of ratio of said continuously variable transmission.

24. (Currently amended) In a hybrid electric vehicle having the output of an internal combustion engine coupled to a continuously variable transmission, the improvement comprising:

(a) an electric ~~motor~~ motor/generator coupled to the output of said engine; and

(b) control means for operating said ~~motor~~ motor/generator simultaneously with said engine and applying positive or negative ~~motor~~ motor/generator torque to said engine output to maintain engine power or torque output substantially along a predetermined operating line and for controlling rate of change of ratio of said continuously variable transmission~~, wherein, at any given vehicle speed, engine speed and power, and thus acceleration or deceleration of said vehicle, can be varied without changing vehicle speed~~;

(c) wherein said control means varies acceleration and deceleration of said vehicle by varying motor/generator torque and rate of change of ratio of said continuously variable transmission.